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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,539	07/25/2003	Shigeru Nishio	100353-00171	1152
4372	7590	11/01/2006	EXAMINER	
ARENT FOX PLLC 1050 CONNECTICUT AVENUE, N.W. SUITE 400 WASHINGTON, DC 20036			PATEL, KANJIBHAI B	
			ART UNIT	PAPER NUMBER
			2624	

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/626,539	<b>Applicant(s)</b> NISHIO ET AL.	
	<b>Examiner</b> Kanji Patel	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6,7,9 and 10 is/are rejected.
- 7) ☒ Claim(s) 3-5 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/25/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. Information Disclosure Statement submitted on 7/25/03 has been considered by the examiner.

### ***Drawings***

3. **Figure 1** should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The disclosure is objected to because of the following informalities:  
**Pages 2-4 and 6** of the specification are scanned rotated erroneously in the IFW.  
Please submit a copy of these pages in response to this Office action.  
Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1-2, 6-7 and 9** are rejected under 35 U.S.C. 102(e) as being anticipated by Sanchez et al. (US 7,009,644 B1).

**For claims 1 and 6**, Sanchez et al. disclose a semiconductor integrated circuit (image sensor 110 in Figure 1 is a semiconductor integrated circuit), comprising:  
a check unit which compares a value of a pixel of interest with values of neighboring pixels contained in an image signal supplied from an image sensor, and determines based on the comparison whether the pixel of interest is defective (steps 210-220 in Figure 2 determines defective pixel; column 4 line 47 to column 5 line 48);  
and

a defect correcting unit which corrects the value of the pixel of interest by using values of surrounding pixels in response to the determination by said check unit that the pixel of interest is defective (steps 222-224 in Figure 2 are used to correct the defective pixel; column 5, lines 48-64).

**For claims 2 and 7**, Sanchez et al. disclose the semiconductor integrated circuit wherein said check unit ascertains that the pixel of interest is defective in response to a detection that the value of the pixel of interest differs from the values of the neighboring pixels by more than a predetermined value (column 5, lines 30-50; a deviation threshold value is used as a predetermined value).

**For claim 9**, see the rejection of claims 1 and 6 above. a processing unit which processes the image signal having undergone defect correction by the defect correcting unit is shown by processor 114 in Figure 1.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sanchez et al. (7,009,644 B1) as applied to claim 9 above and further in view of applicant's admitted prior art (pages 1-3 of the specification; Figure 1).

**For claim 10**, Sanchez et al. fails to disclose a RGB conversion unit as claimed in the invention. However, applicant's admitted prior art Fig. 1 clearly teaches about the RGB conversion unit in the image processing. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sanchez et al. by including the RGB conversion unit as taught by the admitted prior art. Because such a modification will provide color data of each pixel based on color information of the RGB Bayer array (paragraph 1 at page 2 of the specification).

***Allowable Subject Matter***

**7. Claims 3-5 and 8** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior art on record does not teach or suggest, a defect checking unit which ascertains that the pixel of interest is defective if both said first comparison unit and said second comparison unit determine that the value of the pixel of interest differs from the values of the neighboring pixels by more than the respective predetermined differences.

**Other prior art cited**

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lee et al. (US 6,674,404 B1) disclose an apparatus and method for detecting and correcting defective pixels in image sensor.

Dong (6,665,009 B1) discloses on-chip dead pixel correction in a CMOS imaging sensor.

Rambaldi et al. (US 6,618,084 B1) disclose a pixel correction system and method for CMOS imagers.

Okamoto (US 6,222,935 B1) discloses a pattern inspecting method and pattern inspecting device.

Neter (US 6,888,568 B1) discloses a method and apparatus for controlling pixel sensor elements.

Kramer et al. (US 6,504,572 B2) disclose a circuit for detecting leaky access switches in CMOS image pixels.

### **Contact Information**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kanji Patel whose telephone number is (571) 272-7454. The examiner can normally be reached on Monday to Thursday from 8 a.m. to 6:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bella, Matthew can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kanji Patel  
Art Unit 2624  
10/27/06

  
**KANJIBHAI PATEL**  
**PRIMARY EXAMINER**